Received 17 June 2021
Revised 8 April 2022
24 May 2022
31 July 2022
Accepted 2 August 2022

# Toward a better understanding of the attitude–behavior gap in organic food conative loyalty: a moderation and moderated mediation analysis

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## Abstract

**Purpose** – Previous research has found mixed evidence of an attitude–behavior gap in organic food consumption. However, the complex mechanisms underlying this gap warrant further investigation. The purpose of this study is to examine the role of word-of-mouth (WOM), trust, and involvement in the relationship between consumer organic food attitudes and conative loyalty. The Theory of Planned Behavior (TPB) was used as underlying framework for modeling our conceptualized arguments.

**Design/methodology/approach** – A moderation and moderated mediation analysis was performed on a cross-sectional sample of 1,011 Australian organic food consumers.

**Findings** – The results support the TPB-inspired moderated-mediation model. Specifically, the authors found moderated mediation effects of WOM, trust, and involvement on conative loyalty via attitudes toward organics.

**Research limitations/implications** – The cross-sectional research design and the focus solely on Australian consumers constitute limitations of this study.

**Practical implications** – The authors' findings imply that an analysis of the attitude–behavior gap should go beyond the testing of contingent consistency hypotheses and instead combine moderation and mediation mechanisms to better model consumer decision-making leading to conative loyalty. Practitioners would face a resource challenge when targeting low-trust, low-involvement, and low-WOM consumers as developing conative loyalty of these segments would require a longer-term approach through building favorable attitudes toward organic foods.

**Originality/value** – This study is one of the first to demonstrate the potential of examining the attitude–behavior gap in the organic food context through a moderated mediation lens in explaining the dynamics of conative loyalty.

**Keywords** Conative loyalty, Theory of planned behavior, Attitude-behavior link, Moderated mediation analysis, Word-of-mouth, Trust, Involvement

**Paper type** Research paper



The author gratefully acknowledges support from NASAA Organic and the Organic Federation of Australia.

*Funding:* The research supporting this article was funded by the Organic Federation of Australia, University of Canberra and the National Association for Sustainable Agriculture, Australia (NASAA).

*Declarations of interest:* none.

Asia Pacific Journal of Marketing and Logistics
Vol. 35 No. 6, 2023
pp. 1474-1493
Emerald Publishing Limited
1355-5855
DOI 10.1108/APJML-06-2021-0420

## Introduction

Organic food consumption is a complex decision-making process (Liang and Lim, 2020), which goes beyond simple cause-effect relationships (Pino *et al.*, 2012). Part of this complexity arises because, while consumers often have positive attitudes toward organic foods, their actual purchases remain low (Aschemann-Witzel and Niebuhr Aagaard, 2014; Elhaffar *et al.*, 2020). An attitude–behavior gap has also been observed in the broader sustainable consumption domain (Park and Lin, 2020). However, empirical evidence of the attitude-behavior link in organic food consumption is scarce and inconclusive (Aertsens *et al.*, 2009; Elhaffar *et al.*, 2020; Sherwani *et al.*, 2018a, b). This calls for novel mediation and moderation research frameworks to improve our understanding of sustainable consumption behavior (Aschemann-Witzel and Niebuhr Aagaard, 2014; Dhir *et al.*, 2020). Our purpose is to combine contingent consistency and mediation relationships into a moderated mediation framework to better understand the attitude–behavior gap in an organic food context. To address this purpose, we use the Theory of Planned Behavior (TPB) (Ajzen, 1991; Ajzen and Fishbein, 2005) as underlying framework for modeling our conceptualized arguments. The TPB was chosen due to its relevance for understanding organic food consumption (Aertsens *et al.*, 2009) and because it assumes the existence of various background factors that affect behavioral outcomes through the mediating TPB components (Ajzen, 2020).

Our TPB-grounded framework includes Oliver's (1999, p. 34) concept of conation, which implies a "brand specific commitment to repurchase", as a behavioral outcome. Conative loyalty "is experienced when the consumer focuses on wanting to rebuy the brand" (Oliver, 1999, p. 35). Conative loyalty is the third out of four loyalty stages, being closely intertwined with actual loyalty, given that conatively loyal consumers already display attributes of action loyal consumer through their previous purchase (Oliver, 1999; Han *et al.*, 2011).

The value of using a moderated mediation framework is that it allows to capture *how* and *why* mechanisms underlying the attitude–behavior gap. The first moderated mediation narrative concerns the contingent consistency relationships in our TPB-inspired framework. Under this umbrella, we model subjective norms (SN) that is, the judgment of the behavior by important others (Ajzen and Fishbein, 2005) as a moderator of the direct relationship between attitudes and conative loyalty, rather than as a direct predictor, as in the original TPB. Such contingent consistency relationships have been tested with mixed results in other domains (Acock and DeFleur, 1972; Hukkelberg *et al.*, 2014). Although some moderating effects of SN were found, the evidence in the organic food context remains scarce (Al-Swidi *et al.*, 2014; Vermeir and Verbeke, 2006). We include organic food word-of-mouth (WOM) under the umbrella concept of SN. This is because consumers exposed to WOM are subject to social influences that can affect their purchases (Cheung and Thadani, 2012; Katz and Lazarsfeld, 1966).

We posit a moderating role of perceived behavioral control (PBC), which encourages or limits behavior (Ajzen and Fishbein, 2005), in the attitude-conative loyalty link. Such modeling is justified given the proposition of a positive moderating relationship between PBC and attitudes in explaining behavior (Eagly, 1993; Hukkelberg *et al.*, 2014; La Barbera and Ajzen, 2020). Drawing on previous studies, we proxy PBC as trust in organic food and previous buying involvement, because both factors capture perceived barriers and abilities in relation to organic food choice (Aertsens *et al.*, 2009; Ajzen, 1991; Bonn *et al.*, 2016; Sherwani *et al.*, 2018a, b; Tandon *et al.*, 2020).

To the best of our knowledge, our study is one of the few in an organic food context that examines conditional indirect effects (Preacher *et al.*, 2007) between, on the one hand, WOM and our PBC proxies (trust and involvement) and organic food conative loyalty on the other, mediated through organic food attitudes. Our strategy reflects literature calls to investigate how perceived constraints such as WOM and PBC are related and how they influence attitude and organic food choice (Sherwani *et al.*, 2018a, b; Sun and Wang, 2020). The theoretical

formulation and validation of this TPB-inspired moderated mediation framework constitutes our theoretical contributions to the organic food literature. We aim to answer the following research questions:

> How and why do WOM, trust, and involvement moderate the relationship between organic food attitudes and organic food conative loyalty?

> How and why do WOM, trust, and involvement moderate the mediating influence of organic food attitude in the relationship between the above variables and organic food conative loyalty?

We performed our moderation and moderated mediation analysis on a cross-section of Australian organic food consumers. Australian organic food consumption has gained momentum in recent years: 37% of organic shoppers increased their food allocation to organic in 2020, and the number of certified organic operations has grown by 38% since 2011 (Australian Organic, 2021). At the same time, whist there is an expectation from the Australian Organic Limited experts that the organic food market share will grow to 3 to 5% in the next 10 years, currently, organic sales make up only about 1% of Australia's national food and beverage sales total (Parkes, 2017). This is relatively low in an international comparison, as organic food market shares in countries such as Denmark and Austria range between 13 and 11% respectively (Food Nation, 2022). This could in part be explained by an attitude–behavior gap, which in turn warrants further inquiry into the more complex mechanisms underlying this gap.

## Theory and hypothesis development

### *Attitude–behavior gap in organic food: modifying the TPB*

To better understand the attitude–behavior gap in organic food consumption, we used the TPB as an underlying model (Ajzen, 1991). We conceptualize the behavioral outcome using Oliver's conative loyalty construct; that is, the commitment toward rebuying organic foods (Oliver, 1999; Han *et al.*, 2011). Loyalty has been viewed as essential measure of brand success (Kapferer, 1997). In the TPB, (intentional) behavior is explained by three antecedents: attitudes, SN (social norms), and PBC (perceived behavioral control) (Ajzen, 1991). Attitudes capture expected consequences of a given behavior, and SNs are normative beliefs regarding how the behavior will be judged by others, which implies social pressure (Ajzen, 1991).

We integrated WOM as a proxy of SN due to their conceptual overlap. Considered one of the oldest ways of information transmission (Kimmel and Kitchen, 2014), WOM is an exchange of marketing information among consumers that shapes behavior by changing attitudes toward products (Katz and Lazarsfeld, 1966). Research on WOM indicated that consumers' decision-making is affected by the influence of others (e.g., Trusov *et al.*, 2009; Allcott, 2011). Therefore, consumer purchase decisions can be affected in a similar way as SN in the TPB (Cheung and Thadani, 2012; Huete-Alcocer, 2017).

PBC reflects the extent to which an individual believes they have the resources to perform a behavior or can overcome behavioral barriers (Ajzen, 1991). Aertsens *et al.* (2009) identify barriers to organic food consumption, including distrust in organic food and lack of past organic involvement (Bonn *et al.*, 2016; Sherwani *et al.*, 2018b). Consequently, we use both constructs as PBC proxies. Trust plays a key role in organic food consumption because consumers must rely on organic food labels and certification when making purchasing decision (Perrini *et al.*, 2010; Sønderskov and Daugbjerg, 2011). Therefore, if sustainability-minded consumers perceive a lack of transparency and credibility, an attitude–behavior gap can occur (Aschemann-Witzel and Niebuhr Aagaard, 2014; Elhaffar *et al.*, 2020; Schäufele and Janssen, 2021). Therefore, there is a need to re-think the additive TPB model and instead test

how the TPB components are associated with each other in moderating or mediating relationships (Liang *et al.*, 2012; Nardi *et al.*, 2019).

*WOM, trust, and involvement as moderators of the attitude–behavior gap in organic food conative loyalty*

In the TPB, subjective norms (SN), and attitudes are assumed to influence (intentional) behavior in an additive way. Relatedly, the relevance of WOM as transmitter of SN in a consumer behavior context, and its direct effect on attitudes and behavior, has been stressed in the literature (Ansary *et al.*, 2018; Jalilvand and Samiei, 2012). We include WOM in our model for two major reasons: first, in addition to being one of the key indicators on product success (Godes *et al.*, 2005), favorable WOM may boost conative loyalty through experience sharing (Molinari *et al.*, 2008). Second, WOM is critical in industries where products characteristics are difficult to evaluate prior to consumption (Jalilvand and Samiei, 2012). Assuming direct links between attitudes, SN, and behavioral outcomes contradicts the literature postulating that the effect of both constructs may be interdependent or interactive (Grube and Morgan, 1990). This "contingent consistency hypothesis" (Acock and DeFleur, 1972) has been tested with mixed results. Studies in social psychology found that attitudes predict behavior in conjunction with SN for some behavioral outcomes but not for others (Grube and Morgan, 1990; Hukkelberg *et al.*, 2014). In a sustainable food consumption setting, Vermeir and Verbeke (2006), argue that the wish to behave in line with other people's expectations may be a robust predictor of strong purchase intentions despite weak attitudes. Based on this reasoning, and given the theoretical congruence between WOM and SN, we argue that such a contingent consistency relationship, too, may exist in the attitude-conative loyalty link in organic food consumption. Despite the potential relevance of WOM as a moderator in the attitude-behavior link, the moderating influence of WOM has been widely overlooked (Ansary *et al.*, 2018). Drawing on Vermeir and Verbeke's (2006), we theorize that WOM will moderate the attitude-conative loyalty link, such that the translation of attitudes into conative loyalty will be weaker in the presence of strong WOM. Hence, our first hypothesis is as follows:

*H1*. The link between consumer attitudes and their conative loyalty is moderated by organic food WOM, such that the relationship is stronger for lower levels of WOM.

In line with previous research (Aertsens *et al.*, 2009; Bonn *et al.*, 2016; Sherwani *et al.*, 2018a, b), we operationalized PBC as trust in organic foods. This is because PBC captures perceived barriers and abilities that can limit or encourage behavior (Ajzen, 1991; Ajzen and Fishbein, 2005), such as organic food consumption (Aertsens *et al.*, 2009). Because organic foods possess credence attributes, consumers have to "rely on the producer, the seller or independent third parties for information about these attributes" (Perrini *et al.*, 2010, p. 513). Drawing on Thøgersen (2007) and Nuttavuthisit and Thøgersen (2017), we argue that consumer uncertainty associated with how organic foods are produced and their benefits over conventional foods can decrease trust and reduce organic consumption.

There is a well-established proposition in the social psychology literature of a positive moderating relationship between PBC and attitudes in explaining intentional behavior: individuals scoring high in PBC are likely to display a particular behavior if they also evaluate the behavior more positively through their attitudes (Eagly, 1993; Hukkelberg *et al.*, 2014). Hence, we argue that trust in organic will improve the translation of attitudes into conative loyalty. To the best of our knowledge, there is a lack of evidence of the moderating effects of organic food trust in the attitude–behavior gap. Tandon *et al.* (2020) found that consumer trust did not moderate the relationships between attitudes, motivational dynamics, and organic food consumption. On the other hand, Chen (2007) suggests that food neophobia, in other words, distrust in new foods, can exert a moderating effect on the relationship

between food choice motives and consumers' attitude to organic foods. Given the lack of studies that examined the moderating role of consumer trust in the attitude-conative loyalty, the following hypothesis is formulated:

*H2.* The link between consumer attitudes and conative loyalty is moderated by trust in organic foods, such that the relationship is stronger for higher trust levels.

Buying involvement, our second PBC proxy, has been described as an intensity or frequency with which organic foods are consumed, including heavy, light, and occasional organic users (Kushwah *et al.*, 2019). Past consumer involvement in organic food consumption has been described as perceived abilities captured by PBC (Aertsens *et al.*, 2009). According to Tarkiainen and Sundqvist (2009), buying involvement is an under-researched factor in organic food consumption. Pino *et al.* (2012) demonstrates that consumer attitudes and purchase intentions differ depending on the degree of their buying involvement. Prior studies found mixed evidence of the moderating role of buying involvement. Kushwah *et al.* (2019) did not detect a moderating influence of buying involvement in an organic food attitude-behavior setting. By contrast, Chen (2007), found that organic food involvement exerts a positive moderating influence on the attitude-behavior link in the organic food context. Tandon *et al.* (2021) and Talwar *et al.* (2021) provided evidence of the moderating role of buying involvement in the association between organic food attitudes and self-perceptions and buying behavior. Drawing on the above studies, as well as on the insights provided by Eagly (1993), Hukkelberg *et al.* (2014), our next hypothesis is postulated as follows:

*H3.* The link between consumer attitudes and conative loyalty is moderated by involvement with organic foods, such that the relationship is stronger for higher involvement levels.

*Moderated mediation effects in the attitude-conative loyalty gap*

Dhir *et al.* (2020) reveal a lack of mediation and moderation frameworks in analyzing sustainable consumption behavior. We address this gap through the TPB-inspired moderated mediation model explaining organic food conative loyalty. While the TPB predicts individual behavior largely through behavioral (i.e. attitudes), normative (i.e. subjective norms), and control (i.e. PBC) beliefs, it does not detail the origin of such beliefs, instead pointing to various background factors that may affect them, such as personality, values, and demographic factors, but also exposure to media and other information sources. The key TPB components are hence assumed to mediate the influence of these background factors on behavior (Ajzen, 2020). The key TPB components are hence assumed to mediate the influence of these background factors on behavior (Ibid.). We consider WOM and PBC to be theoretically relevant background factors in a TPB framework explaining organic food conative loyalty. In line with Figure 1 below (cf. also Preacher *et al.* (2007) and Hayes (2013)), we conjecture that WOM and our PBC proxies ("X") simultaneously moderate their own indirect relationship with organic food conative loyalty ("Y"), via attitudes ("M").

In the development of hypotheses 4 to 6 below, we draw on Dang *et al.* (2022), arguing that (1) if we find theoretical support of attitude acting as a mediator of the relationship between conative loyalty on the one hand and WOM, trust, and involvement on the other, and, (2) given that WOM, trust, and involvement can be theoretically expected to moderate the


**Source(s):** Preacher *et al.* (2007), Hayes (2013)

**Figure 1.**
Moderated mediation model with independent variable as moderator

attitude-conative loyalty link, as per our reasoning above, then moderated mediation hypotheses involving WOM, trust, and involvement can be postulated.

*Moderated mediation involving word-of-mouth*

To postulate a relationship between WOM and organic food conative loyalty, mediated by attitude, requires establishing a theoretical link between WOM and attitudes. Drawing on Prislin and Wood (2005), we argue that WOM plays a role in explaining attitudes, by suggesting which behavior would yield social acceptance or prevent social sanctions. Indeed, Gotschi *et al.* (2010) study demonstrated that social norms have a positive and significant effect on organic food attitudes. Tarkiainen and Sundqvist (2005) found a positive association between Finish consumers' SN and their attitudes toward organics, as well as an indirect effect of SN on buying intention through attitudes. In addition, Bastos and Moore (2021) found that WOM concerning experiential products is more effective, when compared with material products, in triggering receiver identification and value-creating consumer reactions, such as positive attitudes and purchase intentions. This is because WOM-receivers will regard experience-related WOM as more personal and meaningful (Bastos and Moore, 2021). This rationale applies to organic food consumption, which is more complex as it appeals to multiple consumer senses and; therefore, it is more experiential in nature (Anisimova, 2016; Topping, 2007). Given that WOM also can be expected to negatively moderate the attitude-behavior link in organic food, we formulate our next hypothesis:

*H4.* The indirect effect between WOM and conative loyalty via attitudes is moderated by WOM, such that the indirect effect becomes smaller as the effect of WOM increases.

*Moderated mediation involving trust and organic food involvement*

Our final hypotheses examine a conditional indirect relationship between PBC proxies, also described as self-efficacy (Ashraf, 2021; Bandura, 1977), and organic conative loyalty, through attitudes. This implies that these proxies simultaneously moderate their indirect association with loyalty via attitudes. Combining this with the TPB's postulation that behavioral outcomes are predicted by attitudes and PBC (Ajzen, 1991), we posit an indirect effect of our PBC proxies on conative loyalty, via organic food attitudes. Based on our argument underlying the H2 and H3 moderation hypotheses, we conjecture moderated mediation effects of PBC proxies on conative loyalty via attitudes.

As mentioned previously, trust in organic food can be an important factor in consumer decision-making (see Nuttavuthisit and Thøgersen, 2017; Tandon *et al.*, 2020) Previous research found that consumers can be skeptical about claims on organic food labels (Torres-Ruiz *et al.*, 2018). Lack of trust was found to reduce consumers' perceived organic food benefits (Nuttavuthisit and Thøgersen, 2017). Consumer distrust may be a major reason why positive attitudes toward organics do not fully translate into enhanced purchases (Aertsens *et al.*, 2009; Anisimova, 2019). Building on Uslaner (2013), we view consumer trust as an exogenous construct involving faith-based anonymous and affective trust, which can be an effective trigger of organic food consumption. While we cannot rule out involvement of cognitive dimensions in our trust variable, we argue that if trust in organics is high, attitudes should matter less as mediators between trust and conative loyalty. The reason could be that high-trust consumers use trust to deal with the "duality of knowledge-ignorance" that defines their bounded rationality (Simon, 1957; Zagata and Lostak, 2012). Trusting individuals could even "actively suspend contradictions and unknown matters mentally in an act of faith" to deal with this knowledge-ignorance duality (Zagata and Lostak, 2012, p. 475). In contrast, low-trust consumers may rely more on existing attitudes toward organics for developing their conative loyalty. We, therefore, expect an indirect effect of trust on conative loyalty via

attitudes. This effect should be weaker (stronger) when trust is high (low). Hence, our next hypothesis is as follows:

*H5.* The indirect effect between consumer trust and conative loyalty via attitudes is moderated by trust, such that the indirect effect becomes smaller as trust levels increase.

In terms of organic involvement, Vermeir and Verbeke (2006) found that consumers that are more involved with sustainable products also display more favorable attitudes and stronger purchase intentions toward them. Yet, drawing on Ajzen and Fishbein (2005), we argue that as organic food involvement intensifies, its importance in predicting conative loyalty relative to attitudes increases. Building on previous social psychology research (Aarts and Dijksterhuis, 2000; Ouellette and Wood, 1998), our rationale is that organic food consumption partially can become a routinized activity. Similarly, Tarkiainen and Sundqvist (2009) argue that the higher the previous involvement in organic food shopping, the more it becomes a routinized behavior. Tandon *et al.* (2021) and Kushwah *et al.* (2019) examined the moderating role of organic involvement in organic food consumption, with inconclusive results regarding involvement as a moderator. This is in line with Tandon *et al.* (2020), who stresses the need for more empirical research in this field. Hence, we formulated our final hypothesis as follows:

*H6.* The indirect effect between consumer organic involvement and conative loyalty via attitudes is moderated by previous organic involvement, such that the indirect effect becomes smaller as consumer organic involvement increases.

The theoretical framework summarizing the hypotheses of this study is presented in Figure 2.

## Method and data

### *Data and measures*

This study uses cross-section data from Australian organic food consumers. Respondents were recruited from a national research panel through an online survey. Prior to the main data collection stage, a pilot study was undertaken using a sample of 37 subjects, which resulted in several minor adjustments. To decrease response fatigue, the length of the questionnaire was

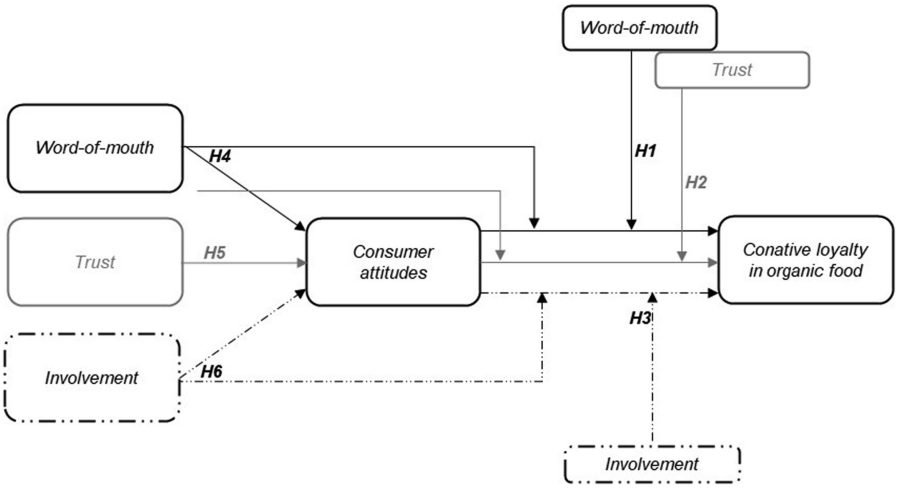


**Figure 2.**
Theoretical framework

decreased and the wording in several items was revised to achieve a greater clarity (Burchell and Marsh, 1992). A prerequisite for participation was that respondents were at least 18 years and have purchased organic foods in the past six months. A total of 17,615 invites from the online panel survey were sent out, from which 1,011 completed responses from the Australian adult population were received (Anisimova, 2016; Anisimova *et al.*, 2019). The measures are presented in Tables 1 and 2 below. The analysis uses two key response variables: organic food attitudes as a mediator variable and organic food conative loyalty as a dependent variable. Both variables are averaged multi-item constructs measured on 7-point Likert scales. In addition, the analysis includes three moderator variables: *WOM*, *Trust*, and *Organic food involvement*. *WOM* and *Trust*, too, are averaged multi-item constructs based on 7-point Likert scales. We also included purchasing power and socio demographic variables as controls (cf. also Hansen *et al.*, 2018).

*Analytical strategy*

We conducted ordinary least squares (OLS) regression analysis with heteroscedasticity robust standard errors, using organic food attitudes and conative loyalty as dependent variables. Both constructs approximate a continuous variable, which justifies using OLS. The focus was on explaining conative loyalty through moderation analysis. This involved specifying interaction effects while controlling for confounders. We then proceeded with a moderated mediation analysis in line with Hayes (2013) and Preacher *et al.* (2007). To compute conditional indirect effects, the regression coefficients from two different models were employed: one model with the mediator as response variable (i.e. attitudes) and another model with the dependent variable as response variable (i.e. conative loyalty). We applied structural equation modeling, using Stata 16's "sem" command. We used a bootstrapping procedure that generated biased corrected and percentile confidence intervals based on 1,000 replications. These confidence intervals are non-symmetric to better mirror the sampling distribution of the conditional indirect effects. Conditional indirect effects were produced by multiplying coefficients from the SEM model using three different values of the moderator variable; *mean – 1 standard deviation* (low moderator); *mean* (medium moderator); *mean + 1 standard deviation* (high moderator).

We used a modeling approach, in which the independent variable $x$ moderates the effect between the mediator $m$ and dependent variable $y$ (Preacher *et al.*, 2007). The latter was captured by the interaction term $mx$ in Equation (2) below. Three independent moderated mediation tests were conducted, involving the moderators *WOM*, *Trust*, and *Involvement*. This implies estimating the equations as follows:

$$m = a_0 + a_1 x \tag{1}$$

$$y = b_0 + b_1 m + b_2 x + b_3 mx \tag{2}$$

The conditional indirect effect is then equal to as follows:

$$a_1(b_1 + b_3 x) \tag{3}$$

where, $x \in \{WOM; trust; involvement\}$

## Data analysis and results

*Construct validity and reliability*

We performed a confirmatory factor analysis (CFA) using Stata 16 to assess the reliability and validity of our constructs. Table 1 shows their standardized factor loadings. All are within the acceptable range (Hair *et al.*, 2010) and statistically significant ($p < 0.001$).

| Construct | Item | Source | Loading |
|---|---|---|---|
| *Attitudes* | Organic foods have superior quality | Organic Federation of Australia | 0.751** |
| *α = 0.91* | Organic foods have no harmful effects to health | | 0.683** |
| *CR = 0.93* | Organic foods have a superior taste | | 0.753** |
| *AVE = 0.55* | Organic food is good for the environment | | 0.738** |
| | Organic foods are produced more ethically | | 0.788** |
| | Shopping for organic foods is truly joyful | | 0.681** |
| | It is a pleasure to shop for organic food | | 0.697** |
| | Shopping for organic food is an exciting experience | | 0.663** |
| | Organic food is free of chemical residuals | | 0.788** |
| | Organic food is not contaminated by chemicals | | 0.77** |
| | Organic food maintains high food safety standards | | 0.82** |
| *Conative loyalty in organic food* | I will continue purchasing organic foods | | 0.812** |
| *α = 0.90* | I would gladly buy more organic food if I could find it | | 0.831** |
| *CR = 0.91* | If organic and conventional food items were the same price, I would choose organic | | 0.632** |
| *AVE = 0.60* | If the "organic version" of the same product is more expensive than the "conventional version", I would choose organic | | 0.686** |
| | I may purchase organic food in the future | | 0.721** |
| | I would recommend purchasing organic food to a friend/relative | | 0.872** |
| | If I had to buy food today, I would buy certified organic food | | 0.851** |
| *WOM* | Please indicate to what extent each of the following helped in shaping your knowledge about organic food | Organic Federation of Australia; National Association of Sustainable Agriculture, Kimmel and Kitchen (2014) | |
| *α = 0.91* | • Friends/acquaintances | | 0.633** |
| *CR = 0.91* | • Relatives | | 0.632** |
| *AVE = 0.55* | • Work colleagues | | 0.674** |
| | • Blogs and social networking s ites | | 0.724** |
| | • Comments made by independent commentators | | 0.78** |
| | • Specialty food/nutrition magazines | | 0.829** |
| | • Specialty well-being | | 0.857** |
| | • Independent reviews | | 0.787** |
| *Trust* | I trust Australian institutions certifying organic foods | Organic Federation of Australia | 0.885** |
| *α = 0.96* | I trust Australian organic food sellers | | 0.92** |
| *CR = 0.97* | I trust Australian organic food manufacturers | | 0.926** |
| *AVE = 0.78* | I trust claims on organic food labels | | 0.888** |
| | I trust organic food products I purchase | | 0.9** |
| | I can rely on organic food products sold in Australia | | 0.888** |
| | I trust store personnel who sell organic foods | | 0.783** |
| | I trust a product that carries an organic label/ an organic certificate | | 0.875** |

**Note(s):** $^{**}p < 0.01$

**Table 1.**
Constructs, validity, and reliability

| Measure | Items/definitions | Source | Cronbach alpha |
|---|---|---|---|
| Purchasing power | Respondents' annual household income<br>• Below 44,999<br>• 45,000–54,999<br>• 55,000–64,999<br>• 65,000–74,999<br>• 75,000–84,999<br>• 85,000–94,999<br>• 95,000–104,999<br>• 105,000 and above<br>• Prefer not to say (treated as missing observation) | Tarkiainen and Sundqvist (2009), Hansen *et al.* (2018) | n/a |
| Previous organic food involvement | How long you have been consuming organic foods<br>• <1 year<br>• 1 year<br>• 2 years<br>• 3 years<br>• >3 years | | n/a |
| Gender | Survey respondent is female (=1) or male (=0) | | n/a |
| Age | Survey respondent's age group<br>18–19 / 20–24 / 25–29 / 30–34 / 35–39 / 40–44 / 45–49 / 50–54 / 55–59 / 60–64 / 65–69 / 70–74 / 75–79 / 80–85 / 85-above | | n/a |
| Education | Survey respondents' highest level of education<br>• No formal qualifications<br>• Year 10 or Year 11<br>• HSC/VCE (Yr 12); "UAC" in some regions<br>• TAFE/Trade qualifications<br>• University degree<br>• Postgraduate qualification | | n/a |
| Location | Survey respondent lives in metropolitan/city region (=1) or rural region (=0) | | n/a |

**Note(s):** n/a, not applicable

**Table 2.**
Additional study measures

Moreover, average variance extracted (AVE) for each construct exceeds 0.5, which indicates convergent validity (Fornell and Larcker, 1981). Besides, discriminant validity among constructs is present because the square root of AVE for each construct exceeded its correlation with the other constructs (Fornell and Larcker, 1981), as shown in Table 3. In addition, we computed the heterotrait-monotrait ratio of correlations (HTMT), which ranged between 0.45 and 0.83 (cf. Table 3), indicating acceptable discriminant validity (Henseler *et al.*, 2015). To assess construct reliability, we calculated Cronbach's alpha scores (Cronbach, 1951) and composite reliability (CR) scores. As indicated in Table 1, all alpha and CR scores exceed the acceptable level of 0.7 (Nunnally, 1978; Hair *et al.*, 2010).

*Hypothesis tests*

Tables 3 and 4 report descriptive statistics and pairwise correlations for our multi-item constructs and remaining variables. Table 5 reports regression results for determinants of organic food attitudes (Models 1–2) and conative loyalty (Models 3–8). For all models, the

**Table 3.**
Pairwise correlations

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Conative loyalty | 1 | | | | | | | | | |
| 2 Organic food attitudes | 0.7596* | 1 | | | | | | | | |
| 3 Education | 0.0132 | 0.0015 | 1 | | | | | | | |
| 4 Age | −0.0386 | −0.0992* | −0.1965* | 1 | | | | | | |
| 5 Female | 0.1388* | 0.1288* | −0.0512 | −0.1279* | 1 | | | | | |
| 6 Location | 0.0084 | 0.0313 | 0.2214* | −0.1373* | −0.038 | 1 | | | | |
| 7 WOM | 0.4043* | 0.4222* | 0.1815* | −0.2440* | 0.0696* | 0.1388* | 1 | | | |
| 8 Trust | 0.5517* | 0.6370* | 0.0239 | −0.1248* | 0.0630* | 0.0168 | 0.3363* | 1 | | |
| 9 Purchasing power | 0.0107 | 0.0389 | 0.2889* | −0.3525* | −0.0613 | 0.1770* | 0.0900* | 0.0719* | 1 | |
| 10 Prev. organic involvement | 0.2765* | 0.1928* | 0.1016* | 0.1173* | −0.0383 | −0.0184 | 0.1012* | 0.1118* | 0.0129 | 1 |

**Note(s):** The square root of AVE for the four multi-item constructs is as follows: Conative loyalty = 0.777, Attitudes = 0.741, WOM = 0.744, Trust = 0.884. As can be verified above, discriminant validity among the four constructs is established since the square root of AVE for each construct exceeds its correlation with the other constructs (Fornell and Larcker, 1981). We moreover computed HTMT validity scores for our constructs which all were below the critical value of 0.85 (Henseler *et al.*, 2015). The HTMT scores were as follows: HTMT (Attitudes, Conative loyalty) = 0.83; HTMT (Attitudes, WOM) = 0.46; HTMT (Attitudes, Trust) = 0.68; HTMT (Conative loyalty, WOM) = 0.44; HTMT (Conative loyalty, Trust) = 0.58; HTMT (WOM, Trust = 0.35)

| Variable | Mean | SD | Min | Max |
|---|---|---|---|---|
| Conative loyalty | 4.947 | 0.995 | 1 | 7 |
| Organic food attitudes | 4.727 | 0.886 | 1 | 7 |
| Education | 4.036 | 1.282 | 1 | 6 |
| Age | 7.722 | 3.312 | 2 | 16 |
| Gender | 0.505 | 0.500 | 0 | 1 |
| Location | 0.696 | 0.460 | 0 | 1 |
| WOM | 2.316 | 1.163 | 1 | 7 |
| Trust | 4.815 | 1.007 | 1 | 7 |
| Purchasing power | 4.104 | 2.741 | 1 | 8 |
| Prev. organic involvement | 3.461 | 1.577 | 1 | 5 |

**Note(s):** *$p < 0.05$

**Table 4.**
Descriptive statistics

variance inflation factors are below the cut-off value of 10, which implies that multicollinearity issues are not present (Neter *et al.*, 1996). In terms of direct effects, *attitudes* have the most significant influence on conative loyalty also in terms of effect size, followed by *Gender, WOM, Involvement,* and *Trust*. These results partially mirror previous findings (e.g., Hansen *et al.*, 2018).

Model 6 provides results for H1, which was rejected due to a statistically insignificant interaction term between *Attitudes* and *WOM*. Models 7–8 present results for H2 and H3, which were rejected as well due to statistically insignificant interaction terms (cf. Table 5). As for H4–H6, the results in Table 6 reveal statistically significant conditional indirect effects for *WOM, Trust* and *Involvement*. The value of the indirect effect of *WOM* on loyalty via attitudes is conditioned by the value of *WOM*; this conditional indirect effect becomes smaller as *WOM* increases from its minimum (i.e. mean − 1SD) to its maximum value (i.e. mean + 1SD). That is, when *WOM* is strong (weak), the indirect effect of *WOM* on loyalty via *Attitudes* becomes weaker (stronger). H4 is, therefore, supported.

The indirect effects of *Trust* and *Involvement* on *Conative loyalty* via *Attitudes* are conditioned by the value of each moderator. This effect becomes smaller as *Trust* and *Involvement* increase from their minimum (i.e. mean − 1SD) to their maximum value (i.e. mean + 1SD). Thus, H5 and H6 are supported.

## Discussion

This study provided evidence that the attitude–behavior gap in organic food conative loyalty is embedded in complex moderated mediation relationships shaped by WOM, trust, and involvement. Firstly, the larger conditional indirect effect of WOM on loyalty via attitudes at low WOM levels suggests that consumers with low sensitivity to WOM appear to rely more on their attitudes in the process of building conative loyalty. By contrast, the reduced conditional indirect effect of WOM on conative loyalty via attitudes at high WOM levels indicates that consumers with high sensitivity to WOM tend to bypass their own attitudes and generate conative loyalty in a more direct response to the social influence embodied in WOM. Our findings extend previous research on organic food choice regarding the relationship between SN, attitudes, and behavioral outcomes (Al-Swidi *et al.*, 2014; Tarkiainen and Sundqvist, 2005). We extend Tarkiainen and Sundqvist (2005), by demonstrating that the indirect effect of WOM on loyalty, through attitudes, is simultaneously moderated by WOM. Moreover, we extended previous research on the effectiveness of experiential products like organic food in triggering positive attitudes and purchase outcomes (see, e.g. Baston and Moore, 2021) – by providing evidence of more complex moderated mediation relationships involving WOM, attitudes and conative loyalty.

**Table 5.**
Regression results for determinants of organic food attitudes and conative loyalty

| | Attitudes | Conative loyalty | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Education | −0.015 (0.032) | −0.080** (0.027) | 0.015 (0.032) | −0.074** (0.027) | −0.024 (0.022) | −0.025 (0.022) | −0.026 (0.022) | −0.025 (0.022) |
| Age | −0.083** (0.030) | 0.014 (0.027) | −0.017 (0.033) | 0.079** (0.031) | 0.071** (0.026) | 0.072** (0.026) | 0.073** (0.026) | 0.072** (0.026) |
| Gender | 0.237*** (0.063) | 0.171*** (0.051) | 0.275*** (0.063) | 0.232*** (0.053) | 0.126** (0.044) | 0.125** (0.044) | 0.130** (0.044) | 0.127** (0.044) |
| Location | 0.060 (0.068) | 0.025 (0.054) | 0.017 (0.069) | 0.021 (0.058) | 0.006 (0.049) | 0.004 (0.049) | 0.005 (0.049) | 0.008 (0.049) |
| WOM | | 0.256*** (0.029) | | 0.276*** (0.031) | 0.118*** (0.027) | 0.129*** (0.031) | 0.125*** (0.027) | 0.119*** (0.027) |
| Attitudes | | | | | 0.616*** (0.034) | 0.617*** (0.035) | 0.615*** (0.034) | 0.614*** (0.034) |
| Trust | | 0.542*** (0.033) | | 0.430*** (0.034) | 0.095** (0.031) | 0.093** (0.031) | 0.085** (0.031) | 0.095** (0.031) |
| Purchasing power | | 0.007 (0.027) | | 0.007 (0.028) | 0.002 (0.022) | 0.002 (0.022) | 0.003 (0.022) | 0.002 (0.022) |
| Prev. organic food involvement | | 0.129*** (0.027) | | 0.217*** (0.029) | 0.137*** (0.024) | 0.136*** (0.024) | 0.135*** (0.024) | 0.135*** (0.023) |
| Attitudes*WOM | | | | | | −0.021 (0.021) | | |
| Attitudes*Trust | | | | | | | −0.027 (0.020) | |
| Attitudes*Involvement | | | | | | | | −0.015 (0.025) |
| $R^2$ | 0.02 | 0.49 | 0.02 | 0.42 | 0.62 | 0.62 | 0.62 | 0.62 |
| Log likelihood | −1,421.59 | −945.71 | −1,423.81 | −989.28 | −807.59 | −806.27 | −806.97 | −807.34 |
| $N$ | 1,011 | 864 | 1,011 | 864 | 864 | 864 | 864 | 864 |

**Note(s):** **$p < 0.01$; ***$p < 0.001$

| Independent variable and moderator | Level of moderator | Conditional indirect effect | Bias | Bootstrap SE | 95% CI Lower | Upper | |
|---|---|---|---|---|---|---|---|
| WOM | Min (mean – 1SD) | 0.312 | −0.000 | 0.028 | 0.259 | 0.366 | (P) |
| | | | | | 0.260 | 0.367 | (BC) |
| | Mean | 0.303 | −0.000 | 0.023 | 0.257 | 0.346 | (P) |
| | | | | | 0.258 | 0.347 | (BC) |
| | Max (mean + 1SD) | 0.293 | −0.001 | 0.021 | 0.250 | 0.335 | (P) |
| | | | | | 0.251 | 0.335 | (BC) |
| Trust | Min (mean – 1SD) | 0.450 | −0.001 | 0.031 | 0.390 | 0.508 | (P) |
| | | | | | 0.393 | 0.511 | (BC) |
| | Mean | 0.438 | −0.000 | 0.025 | 0.388 | 0.487 | (P) |
| | | | | | 0.388 | 0.487 | (BC) |
| | Max (mean + 1SD) | 0.426 | 0.000 | 0.026 | 0.375 | 0.474 | (P) |
| | | | | | 0.373 | 0.472 | (BC) |
| Previous organic food involvement | Min (mean – 1SD) | 0.146 | −0.000 | 0.024 | 0.099 | 0.192 | (P) |
| | | | | | 0.099 | 0.193 | (BC) |
| | Mean | 0.141 | −0.000 | 0.023 | 0.096 | 0.186 | (P) |
| | | | | | 0.097 | 0.187 | (BC) |
| | Max (mean + 1SD) | 0.136 | −0.000 | 0.023 | 0.092 | 0.179 | (P) |
| | | | | | 0.094 | 0.183 | (BC) |

**Note(s):** Results are based on 1,000 bootstrap samples using 95% bias-corrected confidence intervals (CI). The moderated mediation analysis is based on Hayes (2013) and Preacher *et al.* (2007). It involves applying structural equation modeling, using Stata 16's "sem" command

**Table 6.** Moderated mediation bootstrap results

Secondly, our finding that trust moderates its own indirect relationship, through attitudes, with conative loyalty provides a more nuanced perspective on the role of trust in the attitude-behavior link in organic food consumption. We demonstrate that if trust in organic foods is high (low), attitudes matter less (more) as a mediator between trust and conative loyalty. Given that we include trust as independent variable in our moderated mediation framework, rather than as the cognitive outcome of experiences of trustworthiness gained through social interactions found in other studies (Hardin, 2002), our finding could signal an important function of anonymous and affective trust in organic food consumption (Bildtgård, 2008). We thereby extend previous research on the trust-attitude-purchase link for organic food (Ashraf *et al.*, 2019; Tandon *et al.*, 2020) – by demonstrating that the indirect effect of trust on organic food choice, via attitudes, is moderated by trust itself.

An explanation for the reduced (amplified) conditional indirect effect of strong (weak) involvement on conative loyalty through attitudes can be that organic purchasing becomes more (less) of a habit for organic food buyers. Higher involvement, in turn, influences purchases more independently of attitudes compared with consumers with lower involvement (Ajzen, 1991; Ajzen and Fishbein, 2005). Our finding complements previous inconclusive findings on the moderating role of involvement in the attitude-behavior link in organic food choice (Chen, 2007; Tandon *et al.*, 2021) – by suggesting that consumer decision-making may underlie a more complex moderated mediation relationship between involvement, attitudes, and conative loyalty. Lastly, in view of our Australian sample, our findings that it is the low-WOM, low-trust, and low-involvement organic food consumers that tend to build their conative loyalty via attitudes would mean that under the Australian attitude–behavior gap in organic food choice is mostly caused by these consumer segments, rather than their high-WOM, high-trust, and high-involvement counterparts. This in turn could help explain Australia's relatively low organic food market share, despite positive recent trends (Australian Organic, 2021; Food Nation, 2022).

## Implications for theory and practice

Modeling consumer decision-making as a rational process, the TPB postulates that inducing attitudes will facilitate a desired behavior (Ajzen, 1991; Haider *et al.*, 2022). The fact that we did not find contingent consistency but moderated mediation relationships suggests a need to move beyond the TPB's rationality assumptions. The overarching implication of our study is that the rational TPB-inspired view of organic food consumption might not fully capture its true nature. This can be due to the notion of bounded rationality and the role of consumer faith in dealing with the knowledge-ignorance duality (Simon, 1957; Zagata and Lostak, 2012). In other words, consumers might neither have access to all relevant organic food-related information, nor may they be able to fully understand all information needed (Simon, 1957). Trusting individuals may even "actively suspend contradictions and unknown matters mentally in an act of faith" to manage the above duality (Zagata and Lostak, 2012, p. 475). Therefore, considering affective consumer behaviors in addition to rational ones would complement and enhance the TPB in terms of modeling the decision-making complexity of organic food consumers (Churchill *et al.*, 2008; Shin *et al.*, 2016).

Practitioners should be aware that targeting of low-WOM, low-trust, and low-involvement consumers may take more time and entail significant resource investments as these consumer profiles require stronger attitudes to build conative loyalty in organic food. The attitude-transforming effects of such marketing actions may become visible in the medium term only (Haider *et al.*, 2022). Hence, and with reference to Australia, in spite of positive organic food market trends (Australian Organic, 2021), the fact that organic food market shares of the leading countries outperform their Australian counterpart (Parkes, 2017; Food Nation, 2022) might in part be due to a more pronounced attitude-behavior gap. More specifically, there could be a relative abundance of low-WOM, low-trust, and low-involvement organic food consumers down under, whose loyalty hinges more on attitudes – and who require relatively large attitude-building resource investments on the part of sellers and producers. Marketers are recommended to embrace the advantages of advanced technology to personalize their marketing communications to identify and effectively target consumers segments (Smith, 2019) based on the degree of WOM, trust, and involvement.

## Limitations and suggestions for further research

The cross-sectional research design and the focus on Australian consumers constitute limitations of this study. The use of self-reported measures could also entail disadvantages of assessing personality with self-report questionnaires. Future researchers can maximize measurement validity by combining the questionnaire with other methods (McDonald, 2008). We encourage future research to examine and determine if WOM and electronic WOM differ in terms of their moderating, or moderated mediation effect on the attitude-behavior link in a sustainable consumption context. Similarly, future research could analyze other PBC proxies in an organic food choice and the TPB context. Finally, complementing the TBP rationality assumptions with affective antecedents of organic food consumption in a moderated mediation setting can be another fruitful avenue for future research.

## Conclusion

This study used a sample of Australian organic food consumers to examine the attitude–behavior gap in organic food conative loyalty through the lens of a TPB-inspired moderation and moderated mediation framework. We detected moderated mediation effects of WOM, consumer trust and involvement on conative loyalty via organic food attitudes. Our study advances the intersection between the TPB, sustainable consumption and affective processes within the consumer psychology literature.

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